

In re Appln. of Wolfgang Rasp et al.
Serial No. 09/913,118
Reply To Office Action Of September 30, 2004

LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (PREVIOUSLY PRESENTED) Transparent, single- or multilayered, oriented polypropylene film comprising at least one layer, characterized in that said at least one layer comprises a layered dry-ground silicate without a coating of metal oxides which has an irregular surface structure, wherein the amount of said layered silicate is between 0.01 to 4% by weight, based on the total weight of the film, said film being at least 85% by weight polypropylene, said film being laser markable.

Claim 2 (PREVIOUSLY PRESENTED) Polyolefin film according to Claim 1, characterized in that the said layered silicate is platelet-shaped.

Claim 3 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that said dry-grinding process is carried out in such a way that a rough surface structure is produced.

Claim 4 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that said dry-grinding of said silicate layer results in a ground layered silicate, said ground layered silicate being non-glossy.

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Claim 5 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the layered silicate is a mica taken from the group consisting of muscovite, biotite, phlogopite, vermiculite or synthetic mica.

Claim 6 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 5, characterized in that the mica has been ignited.

Claim 7 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the dry grinding process produces ground silicate particles having a mean particle size, said mean particle size being from 1 to 10 μm .

Claim 8 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the layered silicate is in the layer selected from the group consisting of the base layer, the interlayer and the top layer .

Claim 9 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the layered silicate is present in the film in a concentration of from 0.1 to 1.0g/m².

Claim 10 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the film has a thickness of from 3 to 50 μm .

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Claims 11, 12 and 13 (CANCELLED)

Claim 14 (PREVIOUSLY PRESENTED) Process for the production of a polyolefin film according to Claim 1, characterized in that the orientation in the longitudinal direction is carried out with a longitudinal stretching ratio of from 3:1 to 9:1 and the orientation in the transverse direction is carried out with a transverse stretching ratio of from 4:1 to 10:1.

Claim 15 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the dry grinding process produces ground silicate particles having a mean particle size, said mean particle size being from 2 to 8 μm .

Claim 16 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the layered silicate is in the base layer, the interlayer, and the top layer.

Claim 17 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the layered silicate is in the base layer and the interlayer.

Claim 18 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the layered silicate is in the base layer and the top layer.

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Claim 19 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the layered silicate is in the interlayer and the top layer.

Claim 20 (PREVIOUSLY PRESENTED) Process for the production of a polyolefin film according to Claim 1, characterized in that the orientation in the transverse direction is carried out with a transverse stretching ratio of from 4:1 to 10:1.

Claim 21 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the layered silicate is present in the film in a concentration from 0.1 to 0.7 g/m².

Claim 22 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the layered silicate is present in the film in a concentration of from 0.10 to 0.30 g/m².

Claim 23 (PREVIOUSLY PRESENTED) Polyolefin film according to claim 1, characterized in that the film has a thickness of from 5 to 50 µm.

Claim 24 (PREVIOUSLY PRESENTED) A method of marking a polypropylene film comprising the steps of:

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forming an oriented polypropylene film comprising at least one layer, characterized in that said at least one layer of said film comprises a layered, dry-ground silicate without a coating of metal oxides which has an irregular surface structure, wherein the amount of said layered silicate is between 0.01 to 4% by weight, based on the total weight of the film, said film being at least 85% by weight polypropylene; and

marking said oriented polypropylene film by use of a laser, said laser being selected from the group consisting of a CO₂ laser, an Nd:YAG laser, and an excimer laser.

Claim 25 (PREVIOUSLY PRESENTED) A method for forming and applying a marked polypropylene film to a package, the method comprising the steps of:

forming an oriented polypropylene film comprising at least one layer, characterized in that said at least one layer of said film comprises a layered, dry-ground silicate without a coating of metal oxides which has an irregular surface structure, wherein the amount of said layered silicate is between 0.01 to 4% by weight, based on the total weight of the film, said film being at least 85% by weight polypropylene; and

marking said oriented polypropylene film by use of a laser, said laser being selected from the group consisting of a CO₂ laser, an Nd:YAG laser, and an excimer laser; and

applying said formed oriented polypropylene film to the package.